

## **CLAIMS**

~~What is claimed is:~~

1. Self-dispersible curable epoxy resins obtainable by  
(a) reacting one or more  $\alpha,\beta$ -unsaturated carboxylic acid esters (I)

$$R^2 R^3 C=C(R^4) COOR^1 \quad (I)$$

where  $R^1$  is an aromatic or aliphatic radical containing up to 15 carbon atoms, the substituents  $R^2$ ,  $R^3$  and  $R^4$  independently of one another represent hydrogen, branched or unbranched, aliphatic or aromatic groups containing up to 20 carbon atoms or a group  $-(CH_2)_n-COOR^1$ , where  $R^1$  is as defined above and  $n$  is a number of 0 to 10, with  
(b) one or more mono-, di- or polyaminopolyalkylene oxide compounds, compounds (a) and (b) being used in such quantities that the equivalent ratio of the reactive hydrogen atoms at the aminonitrogen atoms of (b) to the  $C=C$  double bond in the  $\alpha,\beta$ -position to the group  $COOR^1$  shown in formula (I) in the carboxylic acid esters (a) is in the range from 10:1 to 1:10,  
and subsequently reacting the intermediate product obtained with  
(c) one or more polyepoxides, the equivalent ratio of oxirane rings in polyepoxide (c) to reactive hydrogen atoms of the mono-, di- or polyaminopolyalkylene oxide compounds used in (b) being adjusted to a value of 100:1 to 1:5:1.

2. Epoxy resins as claimed in claim 1, characterized in that one or more dialkyl maleates is/are used as component (a).

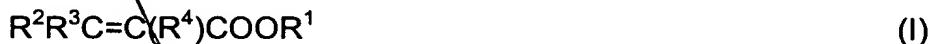
3. Epoxy resins as claimed in claim 1 or 2, characterized in that one or more monoaminopolyethylene oxide compounds is/are used as component (b).

4. Aqueous dispersions containing one or more of the epoxy resins claimed in claims 1 to 3.

5. Aqueous dispersions as claimed in claim 4, characterized in that the mean particle size of the dispersed particles is about 500 nm or less.

6. A process for the production of self-dispersible curable epoxy resins, characterized in that it comprises the steps of

- 5 (a) reacting one or more  $\alpha,\beta$ -unsaturated carboxylic acid esters (I)



10 where  $\text{R}^1$  is an aromatic or aliphatic radical containing up to 15 carbon atoms, the substituents  $\text{R}^2$ ,  $\text{R}^3$  and  $\text{R}^4$  independently of one another represent hydrogen, branched or unbranched, aliphatic or aromatic groups containing up to 20 carbon atoms or a group  $-(\text{CH}_2)_n-\text{COOR}^1$ , where  $\text{R}^1$  is as defined above and  $n$  is a number of 0 to 10, with

15 (b) one or more mono-, di- or polyaminopolyalkylene oxide compounds, compounds (a) and (b) being used in such quantities that the equivalent ratio of the reactive hydrogen atoms at the aminonitrogen atoms of (b) to the C=C double bond in the  $\alpha,\beta$ -position to the group COOR<sup>1</sup> shown in formula (I) in the carboxylic acid esters (a) is in the range from 10:1 to 1:10,

20 and subsequently reacting the intermediate product obtained with

(c) one or more polyepoxides, the equivalent ratio of oxirane rings in polyepoxide (c) to reactive hydrogen atoms of the mono-, di- or polyaminopolyalkylene oxide compounds used in (b) being adjusted 25 to a value of 100:1 to 1.5:1.

7. The use of the epoxy resins claimed in any of claims 1 to 3 for the production of coatings.

